

ABSTRACT

In a dual mode target designation system involving the use of a passive IR detector for developing rough target locations and a ladar or laser range finder for refining target position, a closed loop system is provided for correcting the boresight error of the laser so that it matches that of the IR detector. In one embodiment this is accomplished by first selecting a target detected by the IR detector, executing a laser scan in which the laser beam is moved in a reach pattern until a return from the selected target is detected, developing an error vector between the reported laser target position and the reported IR detector target position and repositioning the line of sight of the laser using the error vector to minimize the co-boresighting error. The result is that the boresight correction resulting from illuminating the first target reduces laser scan time for each subsequent target to permit rapid and accurate target position acquisition. The refined target position may then be used to direct a kill vehicle to the target.